WILKINSON) BARKER) KNAUER) LLP

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February 23, 2000

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Via Hand Delivery
Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, S.W., Room, TW B204
Washington, D.C. 20554

> Re: Paging Network, Inc. ("PageNet"), Arch Communications Group, Inc. ("Arch")
> WT Docket No. 99-365; DA 99-3028: **Ex Parte Presentation**

Dear Ms. Salas:

The enclosed documents are being provided to Lauren Kravetz and Pieter van Leeuwen, Wireless Telecommunications Bureau, in response to requests for additional information made during preliminary meetings regarding the above-referenced proceeding. These meetings were held prior to January 31, 2000. Pursuant to Section 1.1206(b) of the Commission's rules, an original and two copies of this letter and the enclosed documents are being filed with your office. Please associate this letter with the file in the above-referenced proceeding.

The enclosed material is being submitted on behalf of both Arch and PageNet. Please call Judith St. Ledger-Roty, of Kelly Drye & Warren, LLP, if you have any questions for PageNet. Please call the undersigned if you have questions for Arch.

Sincerely,

WILKINSON BARKER KNAUER, LLP

By   Kathryn A. Zachem

Enclosures
cc: Lauren Kravetz (hand delivered w/enclosures)
      Pieter van Leeuwen (hand delivered w/enclosures)

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List A B C D E

Merged Entity Aggregate Channel Analysis
Based on Select City Centers From FCC Rule Section 90.741

	Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
1	West Palm Beach (67)	26	27.37%	21	22.11%	47	50.00%	Metrocall	8	8.42%
								TSR Wireless	7	7.37%
								AirTouch	6	6.32%
								PageMart	3	3.16%
								MAP	2	2.11%
								SkyTel	2	2.11%
								Priority	2	2.11%
								18 others	1 each	18.95%
2	Cincinnati (23)	9	9.78%	37	40.22%	46	48.42%	AirTouch	6	6.52%
								Page Plus	6	6.52%
								Metrocall	5	5.43%
								Dan Comm.	4	4.35%
								Cinn. Bell	3	3.26%
								Page Mart	3	3.26%
								InTouch	2	2.17%
								Ameritech	2	2.17%
								Skytel	2	2.17%
								TSR Wireless	2	2.17%
								11 others	1 each	11.96%

This analysis involves only the 155 channels allocated by the FCC for "traditional paging" services. Frequencies designated as "repeater" "control" or "standby" in the FCC's databases were not included in this channel count. Thus, the channel counts for Arch's and PageNet's competitors represent all mobile frequencies appearing in the FCC's licensing databases as authorized to the competitors within 30 miles of the city center coordinates set forth in Section 90.741 of the FCC's rules.

The statistics reflected herein include all transmitters located within 30 miles of the city centers. In this spreadsheet, we assume all nationwide licensees have transmitters on nationwide frequencies in each market; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitter sites.

Merged Entity Aggregate Channel Analysis
Based on Select City Centers From FCC Rule Section 90.741

Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
3 Miami (12)	26	25.49%	17	16.67%	43	42.16%	TSR Wireless	9	8.82%
							Metrocall	8	7.84%
							AirTouch	7	6.86%
							Gen. Paging & T/C	3	2.94%
							Telecom Systems	3	2.94%
							PageMart	3	2.94%
							Juan Chavez	2	1.96%
							MAP	2	1.96%
							Radiofone	2	1.96%
							Priority Com	2	1.96%
							Classic Venture	2	1.96%
							Skytel	2	1.96%
							14 others	1 each	13.73%
4 Columbus (31)	9	11.84%	32	42.11%	41	53.95%	AirTouch	4	5.26%
							Metrocall	3	3.95%
							PageMart	3	3.95%
							United Comm	3	3.95%
							5 others	2 each	13.16%
							12 others	1 each	15.79%

Merged Entity Aggregate Channel Analysis
Based on Select City Centers From FCC Rule Section 90.741

	Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
5	Boston (6)	16	19.05%	23	27.38%	39	46.43%	AirTouch	12	14.29%
								Metrocall	11	13.10%
								TSR Wireless	6	7.14%
								MAP	3	3.57%
								PageMart	3	3.57%
								Pagex	2	2.38%
								Skytel	2	2.38%
								6 others	1 each	7.14%
6	San Jose (27)	25	23.58%	13	12.26%	38	36.19%	AirTouch	14	13.21%
								Metrocall	13	12.26%
								Paging System	12	11.32%
								Cook	5	4.72%
								PageMart	4	3.77%
								TSR Wireless	4	3.77%
								Network Svcs.	3	2.83%
								SkyTel	2	1.89%
								11 others	1 each	10.38%

Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
7 Bridgeport (42)	19	16.10%	18	15.25%	37	31.36%	Metrocall	29	24.58%
							AirTouch	11	9.32%
							TSR Wireless	6	5.08%
							PageMart	4	3.39%
							Aquis	4	3.39%
							AAT Paging	3	2.54%
							Relay Comm	3	2.54%
							5 others	2 each	8.47%
							11 others	1 each	9.32%
8 New York (1)	19	14.50%	18	13.74%	37	28.24%	Metrocall	34	25.95%
							Schuylkill	10	7.63%
							Free Page	7	5.34%
							AirTouch	6	4.58%
							Aquis	4	3.05%
							TSR Wireless	4	3.05%
							PageMart	3	2.29%
							Skytel	3	2.29%
							6 others	2 each	9.16%
							11 others	1 each	8.40%

Merged Entity Aggregate Channel Analysis
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	Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
9	San Francisco (7)	23	21.70%	13	12.26%	36	34.29%	AirTouch	16	15.09%
								Metrocall	11	10.38%
								Paging Systems	8	7.55%
								Cook	6	5.66%
								TSR Wireless	4	3.77%
								Comtech	3	2.83%
								Delta Valley	3	2.83%
								MAP	3	2.83%
								PageMart	3	2.83%
								2 others	2 each	3.77%
								9 others	1 each	8.49%
10	Providence (38)	16	23.88%	19	28.36%	35	53.03%	Metrocall	6	8.96%
								AirTouch	5	7.46%
								PageMart	4	5.97%
								TSR Wireless	4	5.97%
								Chaycenyou	3	4.48%
								MAP	2	2.99%
								SkyTel	2	2.99%
								Aquis	2	2.99%
								4 others	1 each	5.97%

Merged Entity Aggregate Channel Analysis
Based on Select City Centers From FCC Rule Section 90.741

Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
11 Toledo (47)	11	15.49%	24	33.80%	35	49.30%	Ray's Mobile	6	8.45%
							AirTouch	5	7.04%
							Metrocall	4	5.63%
							Futronics	4	5.63%
							Pagemart	4	5.63%
							Ameritech	4	5.63%
							TSR Wireless	2	2.82%
							SkyTel	2	2.82%
							Source One	2	2.82%
							3 others	1 each	4.23%
12 Buffalo (25)	9	18.00%	25	50.00%	34	70.83%	AirTouch	3	6.00%
							PageMart	3	6.00%
							Metrocall	3	6.00%
							TSR Wireless	2	4.00%
							5 others	1 each	10.00%

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Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
13 Dayton (40)	9	13.85%	25	38.46%	34	52.31%	Danny's	5	7.69%
							Metrocall	3	4.62%
							PageMart	3	4.62%
							Page Plus	3	4.62%
							AirTouch	3	4.62%
							In Touch	2	3.08%
							SkyTel	2	3.08%
							TSR Wireless	2	3.08%
							8 others	1 each	12.31%
14 Hartford (32)	17	19.32%	17	19.32%	34	38.64%	AirTouch	17	19.32%
							Metrocall	15	17.05%
							PageMart	4	4.55%
							TSR Wireless	4	4.55%
							PageEx	2	2.27%
							Aquis	2	2.27%
							SkyTel	2	2.27%
							8 others	1 each	9.09%

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Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
15 Los Angeles (2)	16	18.82%	17	20.00%	33	38.82%	Paging Systems	13	15.29%
							Metrocall	8	9.41%
							PageMart	4	4.71%
							TSR Wireless	4	4.71%
							AirTouch	3	3.53%
							Argentina MOHR	3	3.53%
							MAP	3	3.53%
							14 others	1 each	16.47%
16 Worcester (53)	16	22.22%	17	23.61%	33	45.83%	Metrocall	8	11.11%
							AirTouch	7	9.72%
							TSR Wireless	6	8.33%
							MAP	3	4.17%
							PageMart	3	4.17%
							Aquis	2	2.78%
							SkyTel	2	2.78%
							8 others	1 each	11.11%

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17 Cleveland (16)	9	13.43%	23	34.33%	32	47.76%	Cleveland Comm.	5	7.46%
							Metrocall	5	7.46%
							AirTouch	5	7.46%
							PageMart	3	4.48%
							Pro-Com Inc.	2	2.99%
							TSR Wireless	2	2.99%
							Ameritech	2	2.99%
							11 others	1 each	16.42%
18 Philadelphia (4)	15	12.82%	17	14.53%	32	27.35%	Metrocall	19	16.24%
							Schuylkill	15	12.82%
							TSR Wireless	5	4.27%
							MAP	4	3.42%
							Skytel	4	3.42%
							AirTouch	3	2.56%
							Aquis	3	2.56%
							Conestoga	3	2.56%
							PageMart	3	2.56%
							6 others	2 each	10.26%
							14 others	1 each	11.96%

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19 Springfield (59)	15	18.29%	17	20.73%	32	39.02%	AirTouch	18	21.95%
							Metrocall	12	14.63%
							TSR Wireless	5	6.10%
							PageMart	3	3.66%
							12 others	1 each	14.63%
20 Albany (44)	11	14.86%	20	27.03%	31	41.89%	AirTouch	7	9.46%
							Metrocall	6	8.11%
							Berkshire	4	5.41%
							PageMart	3	4.05%
							TSR Wireless	3	4.05%
							Beeper People	3	4.05%
							SkyTel	2	2.70%
							PNI	2	2.70%
							Pattersonville	2	2.70%
							11 others	1 each	14.86%

Merged Entity Aggregate Channel Analysis
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Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
21 Allentown (55)	14	12.73%	17	15.45%	31	28.18%	Metrocall	17	15.45%
							Schykill	8	7.27%
							Conestoga	7	6.36%
							TSR Wireless	5	4.55%
							Aquis	5	4.55%
							NPI Holdings	5	4.55%
							PageMart	4	3.64%
							MAP	3	2.73%
							AirTouch	3	2.73%
							6 others	2 each	10.91%
							10 others	1 each	9.09%
22 Birmingham (41)	8	14.29%	23	41.07%	31	55.36%	Metrocall	5	8.93%
							PageMart	3	5.36%
							AirTouch	3	5.36%
							TSR Wireless	2	3.57%
							SkyTel	2	3.57%
							Source One	2	3.57%
							8 others	1 each	14.28%

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Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
23 Chicago (3)	11	9.91%	20	18.02%	31	27.93%	Ameritech	24	21.62%
							Metrocall	21	18.92%
							AirTouch	5	4.50%
							PageMart	5	4.50%
							TSR Wireless	4	3.60%
							Indiana Paging	3	2.70%
							B&B Beepers	2	1.80%
							Calumet Radio	2	1.80%
							MAP	2	1.80%
							Skytel	2	1.80%
							10 others	1 each	9.01%
24 Oxnard (68)	15	17.86%	16	19.05%	31	36.90%	Paging Sytems	11	13.10%
							Metrocall	9	10.71%
							Dial Page	5	5.95%
							AirTouch	4	4.76%
							Sylvan	4	4.76%
							TSR Wireless	3	3.57%
							PageMart	3	3.57%
							3 others	2 each	7.14%
							8 others	1 each	9.52%

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	Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
25	Wilmington (65)	15	14.42%	16	15.38%	31	29.81%	Metrocall	17	16.35%
								Schuylkill	15	14.42%
								Aquis	7	6.73%
								MAP	4	3.85%
								PageMart	3	2.88%
								AirTouch	3	2.88%
								Alpha	3	2.88%
								4 others	2 each	7.69%
								13 others	1 each	12.50%
26	Akron (51)	9	12.50%	21	29.17%	30	41.67%	AirTouch	5	6.94%
								ProComm	5	6.94%
								Cleveland Comm	5	6.94%
								PageMart	3	4.17%
								Metrocall	3	4.17%
								CommSite Mgt.	3	4.17%
								3 others	2 each	8.33%
								12 others	1 each	16.66%

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Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
27 Fresno (69)	18	17.65%	12	11.76%	30	29.41%	Fresno Mobile	17	16.67%
							Metrocall	13	12.75%
							AirTouch	7	6.86%
							Modera Radio	5	4.90%
							PageMart	3	2.94%
							TSR Radio	3	2.94%
							Vincent	3	2.94%
							Kenman	3	2.94%
							4 others	2 each	7.84%
							10 others	1 each	9.62%
28 Portland (30)	9	11.25%	21	26.25%	30	37.50%	Metrocall	13	16.25%
							RF Concepts	6	7.50%
							AirTouch	5	6.25%
							Sims	3	3.75%
							Cascade	3	3.75%
							PageMart	3	3.75%
							3 others	2 each	7.50%
							11 others	1 each	13.75%

Merged Entity Aggregate Channel Analysis
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	Geographic Market (FCC Market Number)	PageNet Total Channels per Geographic Market	PageNet Percentage of Channels per Geographic Market	Arch Total Channels per Geographic Market	Arch Percentage of Channels per Geographic Market	Merged Entity Total Channels per Geographic Market	Merged Entity Percentage of Channels per Geographic Market	Competitors in Geographic Market (descending order of total channels)	Competitor Total Channels per Geographic Market	Competitor Percentage of Channels per Geographic Market
29	San Diego (18)	17	17.89%	13	13.68%	30	31.58%	Paging Systems	11	11.58%
								AirTouch	10	10.53%
								Metrocall	10	10.53%
								PacBell	6	6.32%
								TSR Wireless	4	4.21%
								PageMart	4	4.21%
								MAP	3	3.16%
								Network Services	2	2.11%
								Cook	2	2.11%
								Nationwide Paging	2	2.11%
								Skytel	2	2.11%
								9 others	1 each	9.47%
30	Youngstown (62)	10	12.99%	20	25.97%	30	38.96%	Crown	8	10.39%
								Metrocall	7	9.09%
								Sygnet	5	6.49%
								AirTouch	5	6.49%
								PageMart	3	3.90%
								TSR Wireless	3	3.90%
								SkyTel	2	2.60%
								Ameritech	2	2.60%
								12 others	1 each	15.58%

CAPACITY ANALYSIS OF ARCH'S AND PAGENET'S COMPETITORS
IN 30 OF THE TOP 100 URBAN AREAS IN THE U.S.

In order to assess the technical capacity available to Arch's and PageNet's competitors in a given market,[1] Arch first had to determine the number of paging units that can be supported per frequency. Arch was able to do this by in-putting the following assumptions, which are common in the industry, into software specifically developed by Motorola for purposes of calculating capacity: (1) systems operate with an efficiency of 90%; (2) there is a traffic mix of 80% numeric paging service and 20% alphanumeric paging service; (3) there is a busy hour call rate of .25 for numeric and .30 for alphanumeric; and (4) 10 digits are transmitted per call for numeric and 40 characters for alphanumeric.[2] These assumptions yield the following capacity figures:

Protocol/Baud Rate	Number of Paging Units that can be Supported
POCSAG 512	31,392
POCSAG 1200	73,440
POCSAG 2400	147,168
FLEX 1600	82,602
FLEX 3200	165,204
FLEX 6400	330,409

Rather than assuming competitors have deployed 6400 bps FLEX for maximum capacity, Arch adopted a far more conservative approach, calculating capacity figures assuming, instead, that competitors operate systems with the lower 1200 or 2400 bps POCSAG systems.[3]

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[1] The statistics reflected in the attached capacity chart are premised on data provided in the Federal Communications Commission's licensing databases for frequencies and transmitters operating within 30 miles of the city center coordinates in Section 90.741 of the Commission's rules, 47 C.F.R. § 90.741, which sets forth geographic coordinates for the city centers in each of the top 100 urban areas in the U.S.

[2] *See generally, The Strategis Group, The State of the U.S. Paging Industry: 1999*, at p. 25 Table 3.4. The data provided in the report assumes paging networks operate with 100% efficiency; however, Arch believes that an efficiency rate of 90%, while more conservative, more accurately reflects the way in which paging networks operate.

[3] The use of POCSAG 1200 bps ignores the estimated 47% of paging customers that are served by the higher capacity FLEX protocols; and, the use of POCSAG 2400 bps ignores the estimated 38% of paging customers that are served by the higher capacity FLEX protocols. *Id.* at p. 24, Figure 3.7. It is conceivable that some competitors would need to make infrastructure modifications, such as the addition of switches, to accommodate a large influx of new customers. The attached chart simply demonstrates that Arch's and PageNet's competitors now possess more than enough spectrum capacity to increase substantially their existing subscriber numbers.

Thus, to determine the number of paging units that can be served, at a minimum, by Arch's and PageNet's competitors in a given market using their existing networks, Arch multiplied the number of paging units (listed in the above chart) that can be supported at 1200 and 2400 bps POCSAG by the number of channels licensed to Arch's and PageNet's competitors in particular markets. The resulting capacity figures are set forth below.

MARKET NUMBER	MARKET NAME	POPULATION (BASED ON 1999 POPULATION ESTIMATES generated by MAPInfo for the 30 mile area surrounding the geographic coordinates set forth in 47 C.F.R. § 90.741)	NUMBER OF CHANNELS AUTHORIZED TO ARCH'S & PAGENET'S COMPETITORS (Arch assumes that all nationwide licensees have transmitters on nationwide frequencies in each service area; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitters)	COMPETITOR CAPACITY AT 1200 baud POCSAG (number of paging units that can be supported)	COMPETITOR CAPACITY AT 2400 baud POCSAG (number of paging units that can be supported)
1	New York, NY	13,984,762	94	6,903,360	13,833,792
2	Los Angeles, CA	10,568,033	52	3,818,880	7,652,736
3	Chicago, IL	6,737,435	80	5,875,200	11,773,440
4	Philadelphia, PA	4,942,375	85	6,242,400	12,509,280
6	Boston, MA	3,804,720	45	3,304,800	6,622,560

MARKET NUMBER	MARKET NAME	POPULATION (BASED ON 1999 POPULATION ESTIMATES generated by MAPInfo for the 30 mile area surrounding the geographic coordinates set forth in 47 C.F.R. § 90.741)	NUMBER OF CHANNELS AUTHORIZED TO ARCH'S & PAGENET'S COMPETITORS (Arch assumes that all nationwide licensees have transmitters on nationwide frequencies in each service area; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitters)	COMPETITOR CAPACITY AT 1200 baud POCSAG (number of paging units that can be supported)	COMPETITOR CAPACITY AT 2400 baud POCSAG (number of paging units that can be supported)
7	San Francisco, CA	3,955,167	70	5,140,800	10,301,760
12	Miami, FL	3,251,224	59	4,332,960	8,682,912
16	Cleveland, OH	2,299,102	35	2,570,400	5,150,880
18	San Diego, CA	2,312,031	65	4,773,600	9,565,920
23	Cincinnati, OH	1,804,726	46	3,378,240	6,769,728
25	Buffalo, NY	1,158,891	16	1,175,040	2,354,688
27	San Jose, CA	3,053,233	68	4,993,920	10,007,424
30	Portland, OR	1,803,471	50	3,672,000	7,358,400

3

MARKET NUMBER	MARKET NAME	POPULATION (BASED ON 1999 POPULATION ESTIMATES generated by MAPInfo for the 30 mile area surrounding the geographic coordinates set forth in 47 C.F.R. § 90.741)	NUMBER OF CHANNELS AUTHORIZED TO ARCH'S & PAGENET'S COMPETITORS (Arch assumes that all nationwide licensees have transmitters on nationwide frequencies in each service area; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitters)	COMPETITOR CAPACITY AT 1200 baud POCSAG (number of paging units that can be supported)	COMPETITOR CAPACITY AT 2400 baud POCSAG (number of paging units that can be supported)
31	Columbus, OH	1,423,488	35	2,570,400	5,150,880
32	Hartford, CT	1,949,219	54	3,965,760	7,947,072
38	Providence, RI	2,099,297	32	2,350,080	4,709,376
40	Dayton, OH	1,253,694	31	2,276,640	4,562,208
41	Birmingham, AL	883,298	25	1,836,000	3,679,200
42	Bridgeport, CT	2,625,793	81	5,948,640	11,920,608
44	Albany, NY	870,446	43	3,157,920	6,328,224
47	Toledo, OH	787,524	36	2,643,840	5,298,048

MARKET NUMBER	MARKET NAME	POPULATION (BASED ON 1999 POPULATION ESTIMATES generated by MAPInfo for the 30 mile area surrounding the geographic coordinates set forth in 47 C.F.R. § 90.741)	NUMBER OF CHANNELS AUTHORIZED TO ARCH'S & PAGENET'S COMPETITORS (Arch assumes that all nationwide licensees have transmitters on nationwide frequencies in each service area; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitters)	COMPETITOR CAPACITY AT 1200 baud POCSAG (number of paging units that can be supported)	COMPETITOR CAPACITY AT 2400 baud POCSAG (number of paging units that can be supported)
51	Akron, OH	227,412	42	3,084,480	6,181,056
53	Worcester, MA	1,472,498	39	2,864,160	5,739,552
55	Allentown, PA	1,422,151	79	5,801,760	11,626,272
59	Springfield, MA	1,388,915	50	3,672,000	7,358,400
62	Youngstown, OH	866,505	47	3,451,680	6,916,896
65	Wilmington, DE	3,358,919	73	5,361,120	10,743,264
67	West Palm Beach, FL	1,134,720	48	3,525,120	7,064,064

MARKET NUMBER	MARKET NAME	POPULATION (BASED ON 1999 POPULATION ESTIMATES generated by MAPInfo for the 30 mile area surrounding the geographic coordinates set forth in 47 C.F.R. § 90.741)	NUMBER OF CHANNELS AUTHORIZED TO ARCH'S & PAGENET'S COMPETITORS (Arch assumes that all nationwide licensees have transmitters on nationwide frequencies in each service area; the FCC rules do not license nationwide channels on a transmitter-by-transmitter basis and therefore the FCC database is not inclusive of those transmitters)	COMPETITOR CAPACITY AT 1200 baud POCSAG (number of paging units that can be supported)	COMPETITOR CAPACITY AT 2400 baud POCSAG (number of paging units that can be supported)
68	Oxnard, CA	814,297	53	3,892,320	7,799,904
69	Fresno, CA	885,050	72	5,287,680	10,596,096

PAGING CHANNELS AVAILABLE IN 929-931 MHz AUCTION
IN 30 MARKETS WITHIN THE TOP 100

The attached chart provides information regarding the number of paging channels in thirty of the top 100 markets that are available for acquisition in the up-coming auction of paging spectrum in the 929 and 931 MHz bands. The chart demonstrates that there are a large number of channels -- from 15 to 44 -- available for auction in each of the thirty markets.

The information presented in the enclosed chart was prepared based upon information available from the FCC, as well as internal Arch and PageNet sources. The FCC will auction a total of 49 929 MHz and 931 MHz licenses in each of 51 Major Economic Areas ("MEAs"). Arch identified each of the 49 channels available for auction, and compared them to the 929 MHz and 931 MHz channels already occupied by Arch, PageNet, or one of their competitors in each of the thirty markets. Arch then subtracted the number of occupied channels from the 49 channels available in each MEA to identify the number of channels available in the upcoming auction in each of the thirty markets.

Channels Available in 929-931MHz Paging Auction Within 30 Relevant Areas
(49 Channels Being Auctioned in 51 MEAs)

Market (Market Number)	Channels Available
Akron, OH (51)	30
Albany, NY (44)	34
Allentown, PA (55)	11
Birmingham, AL (41)	30
Boston, MA (6)	18
Bridgeport, CT (42)	13
Buffalo, NY (25)	44
Chicago, IL (3)	16
Cincinnati, OH (23)	23
Cleveland, OH (16)	32
Columbus, OH (31)	26
Dayton, OH (40)	33
Fresno, CA (69)	14
Hartford, CT (32)	20
Los Angeles, CA (2)	8
Miami, FL (12)	15
New York, NY (1)	5
Oxnard, CA (68)	7
Philadelphia, PA (4)	9
Portland, OR (30)	25
Providence, RI (38)	22
San Diego, CA (18)	8
San Francisco, CA (7)	8
San Jose, CA (27)	8

Market (Market Number)	Channels Available
Springfield, MA (59)	21
Toledo, OH (47)	28
West Palm Beach, FL (67)	15
Wilmington, DE (65)	8
Worcester, MA (53)	21
Youngstown, OH (62)	31